

# Visitor and staff protection during COVID-19: Lessons for future emergencies

Eric Vance Martin, Indiana University; Gina Depper Coral, US Fish and Wildlife Service<sup>1</sup>; Steve Wolter, Indiana University

## Introduction

Parks and recreation facilities and services play important roles in community health and well-being in a number of dimensions, including physical activity (Kaufman et al., 2019), healthy weight (Potwarka, Kaczynski, & Flack, 2008), and mental health (Lee, 2020). However, parks and recreation agencies are also workplaces, and protection of staff from COVID-19 is an important management concern (Cirrincione et al., 2020). Through the beginning of the pandemic, many parks remained open by explicit exemption from shutdown and stay-at-home orders. In addition, park maintenance work must generally be performed in person, and even outdoor workers are at risk of contracting COVID-19 (Bulfone, Malekinejad, Rutherford, & Razani, 2020).

Early in the COVID-19 pandemic, when state governments were responding to this novel situation with little information, US parks and recreation agencies were mandated to continue services under restrictive orders while protecting both workers and visitors.

In this exploratory study, we asked:

- How, and to what degree, did local parks and recreation agencies respond to and implement governors' orders and public health recommendations?
- To what degree did they treat staff and visitors as distinct COVID-19 prevention targets?
- How can government and technical assistance organizations better support these agencies in future public health emergencies?

## Methods

We adapted 99 policy and practice items relating either to visitors or staff (see examples in Table 1) from governors' orders and public health recommendations for an online questionnaire. With the help of our project partners, we surveyed local parks and recreation agencies in Michigan and Indiana from May to June 2020, just as the first wave of COVID-19 was abating. Respondents rated these items on a five-point, ordinal implementation scale and provided information about agency characteristics, emerging training and technical assistance needs, and recommendations for similar situations. Multiple imputation was used to handle missing data, and item response theory factor models were used to explore differences in staff-focused and visitor-focused implementation.

Table 1. Sample Item Wordings

Framing Question or Text for a Set of Items	Item Text
What is the greatest extent to which your agency has described the following aspects of COVID-19 in any communications with visitors?	How COVID-19 is transmitted
What is the greatest extent to which your agency has implemented providing information about recommended health behaviors to visitors on the topic of...	Handwashing?
What is the greatest extent to which your agency has implemented the following policies or practices in order to limit the exposure of staff?	Increase the routine cleaning of workspaces

## Results

### Sample

We collected 119 responses—60% from Michigan and 40% from Indiana—from May 15 to June 17, 2020. Most agencies had smaller staff sizes and served city political units, suburban areas, and smaller populations.

### Policy types and their implementation

No policy or practice was fully implemented by all respondents. Generally, practices of communicating with target audiences about the nature of COVID-19 and about recommended health behaviors

were implemented more than those intended to facilitate health behaviors or to reduce exposure directly. In communications about the nature of COVID-19 and health behaviors with staff and visitors, respectively, agencies were much more likely to address staff than to address visitors (see Table 2).

Table 2. Average Percentage Part or Full Implementation of Thematic Item Group\*

Thematic Item Group	Policy/Practice Target			
	Visitor		Staff	
	Items	Average	Items	Average
Communication about health behaviors	10	64%	14	75%
Aspects of COVID-19 described	5	61%	4	82%
Actions related to food and dining	2	56%		
Use of indoor and outdoor spaces	8	54%		
Actions related to events	5	47%		
Reducing COVID-19 exposure			24	59%
Facilitating health behaviors			7	79%

\*Note: Percentages relate to agencies to which the item was applicable.

### Agency and community differences in levels of policy implementation

An exploratory item response theory factor analysis suggested three policy and practice implementation dimensions. These dimensions can be interpreted as public health policy responsiveness, propensity, or capacity. The dimensions were (1) a general dimension related to all policy and practice items, (2) a distinct staff-focused dimension, and (3) a distinct visitor-focused dimension.

In exploratory bivariate regression analyses of the factor scores on agency and community covariates, implementation of visitor-related policies and practices was positively related to the agency's staff size, service population, and urbanity (see Table 3). There were no statistically significant differences in the factor scores for the three dimensions between the subsamples in the two states.

Table 3. Statistically Significant Agency/Community Correlates of Factor Scores in Exploratory Bivariate Regressions

Variable	General			Staff			Visitor		
	b	p	r <sup>2</sup>	b	p	r <sup>2</sup>	b	p	r <sup>2</sup>
Full-time Staff*	ns			ns			0.15	.01	.06
Part-time Staff*	ns			ns			0.12	.01	.06
Volunteer Staff*	0.06	.04	0.04	ns			ns		
Urbanity/Rurality									.09
Urban vs. Suburban	ns			ns			0.38	.03	
Rural vs. Suburban	ns			ns			-0.36	.07	
Population*	ns			ns			0.11	.01	.06

\*Note: Continuous variables were entered as log(x+k).

### Agency views of supportive efforts by government and technical assistance organizations

We asked what information, support, and training needs had emerged for the respondents as they managed through the pandemic. The main needs reported were for:

- Training on a wide variety of subjects related to health, appropriate policies, and policy implementation, as well as access to the supplies needed to implement the policies (n=16).
- Clear and specific operational guidelines (n=14).
- Help understanding, interpreting, and operationalizing government recommendations and requirements (n=6).
- Better information and communication access—particularly online—to information and training resources as well as to government agencies at all levels, including peer agencies (n=6).

We also requested recommendations for government and technical assistance agencies in future public health emergencies. A theme here was a desire for greater unity of message and coordination by these agencies as well as preparation. On this theme, two respondents wrote, "consider health [practices] all the time, not just for one virus," and "have things already in place in case of a pandemic instead of having to figure it out on the fly."

## Discussion and conclusions

Overall, we found that the policy and practice types most likely to be implemented were those related to providing information about health risks and health behaviors, such as those that could be communicated with signs, announcements, and so on. A broad swathe of the policy and practice items were at least partly implemented by a substantial proportion of respondents.

We asked about the "greatest extent" of implementation immediately following the first case surge and the strictest lockdown orders in both states. Despite generally remaining open, parks and recreation agencies were not exempt from governors' orders to protect employees and visitors. Non-universal implementation of certain measures directly entailed by governors' orders in both states is therefore notable.

With regard to non-universal implementation of some measures, the qualitative results point to the agencies' inability to access clear information and sufficient implementation support. This corresponds to public health emergency research examining the influence of peer organizations and those in "vertical networks," such as government agencies that regulate and provide technical assistance (Chang, 2018), as well as supporting, private state and national organizations.

Perhaps non-universal implementation of these policies was due in part to a lack of clear and consistent messaging on the part of regulatory and technical assistance organizations about what was required and how it could or should be implemented—at least at the early point in the pandemic when we collected data. Respondents expressed frustration that mandates and best practice suggestions seemed to vary substantially over time and by source.

In addition, the exploratory analyses of the correlates of the item response theory factor scores showed that agencies with smaller staffs, those that serve smaller populations, and those that served more rural areas had less extensive implementation of visitor-focused policies. While this may have been due to unmeasured factors, it might also indicate that these agencies need even greater support with visitor-focused policy implementation due to resource or capacity constraints.

## Recommendations

Research on emergency management (e.g., Mockrin et al., 2018) suggests that the shock associated with managing through COVID-19 may have created an opportunity for improving planning, capacity, flexibility, and readiness for rapid internal policy changes in future public health emergencies. We suggest a system-wide approach, with training and planning facilitation for local agencies using a competency framework and a coordination focus for state and national governments, technical assistance providers, and advocacy organizations.

## Acknowledgements

This research was completed with generous help from our project partners, the Indiana Park & Recreation Association and mParks – the Michigan Recreation and Park Association.

## References

- Bulfone, T. C., Malekinejad, M., Rutherford, G. W., & Razani, N. (2020). Outdoor transmission of SARS-CoV-2 and other respiratory viruses: A systematic review. *The Journal of Infectious Diseases*.
- Chang, K. (2018). Exploring the dynamics of local emergency management collaboration in the United States: What we learned from Florida County and City emergency managers' viewpoints. *Euramerica*, 48(1), 1-71.
- Cirrincione, L., Plescia, F., Ledda, C., Rapisarda, V., Martorana, D., Moldovan, R. E., . . . Cannizzaro, E. (2020). COVID-19 pandemic: Prevention and protection measures to be adopted at the workplace. *Sustainability*, 12(9).
- Kaufman, T. K., Rundle, A., Neckerman, K. M., Sheehan, D. M., Lovasi, G. S., & Hirsch, J. A. (2019). Neighborhood recreation facilities and facility membership are jointly associated with objectively measured physical activity. *Journal of Urban Health-Bulletin of the New York Academy of Medicine*, 96(4), 570-582.
- Lee, K. H. (2020). Mental health and recreation opportunities. *International Journal of Environmental Research and Public Health*, 17(24), 15.
- Mockrin, M. H., Fishler, H. K., & Stewart, S. I. (2018). Does wildfire open a policy window? Local government and community adaptation after fire in the United States. *Environmental Management*, 62(2), 210-228.
- Potwarka, L. R., Kaczynski, A. T., & Flack, A. L. (2008). Places to play: Association of park space and facilities with healthy weight status among children. *Journal of Community Health*, 33(5), 344-350.

<sup>1</sup>Note: The findings and conclusions in this poster are those of the authors and do not represent the official views of the U.S. Fish and Wildlife Service.



INDIANA UNIVERSITY  
BLOOMINGTON

Eppley Institute for Parks & Public Lands  
Indiana University  
501 N. Morton Street, Suite 101  
Bloomington, IN 47404  
(812)855-3095  
www.eppley.org

